

## **LOW LEVEL LIGHT THERAPY FOR ENHANCEMENT OF NEUROLOGIC FUNCTION**

### **Abstract of the Disclosure**

Therapeutic methods for enhancing neurologic function such as may be desired in individuals having motor and/or cognitive impairment, including that resulting from Alzheimer's disease, dementia, head trauma, mental disease such as depression, stroke and neurodegeneration, as well as in healthy individuals are described, the methods including delivering a cognitive enhancing effective amount of light energy having a wavelength in the visible to near-infrared wavelength range to a target area of the brain. The neurologic function enhancing effective amount of light energy, in accordance with a preferred embodiment, is a predetermined power density ( $\text{mW}/\text{cm}^2$ ) at the level of the brain tissue being treated, and is delivered by determining a surface power density of the light energy that is sufficient to deliver the predetermined power density of light energy to the target brain tissue. In one embodiment, progenitor cells are treated using light energy and implanted into the central nervous system of a patient.

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